

DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge Program

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August 21, 2008

Contract No. 04-0120F4

04-SF-80-13.2 / 13.9

Self-Anchored Suspension Bridge

Letter No. 05.03.01-002576

Michael Flowers
Project Executive
American Bridge/Fluor, A JV
375 Burma Road
Oakland, CA 94607

Dear Michael Flowers,

OBG Fabrication Issues - Dimensional Control

This letter is being issued to provide notification of items the Department considers out of compliance with the Contract. The following issues have been the subject of various letters, meeting workshop agendas, and repeated discussions with the Contractor during OBG weekly meetings.

A complete plan detailing the survey procedure being used in lieu of a rigid steel template to verify the alignment of shell plates, ribs and other matching plates in each segment has not been submitted. The Department allowed ABF to fabricate portions of segments with the understanding that a system of jigs would provide the rigidity and consistency of a template, that adjacent segments would be fabricated 100mm apart, that a survey procedure would ensure that the necessary tolerances are achieved, and that these procedures would be submitted to the Engineer for approval.

To date, the Department has received incomplete and inconsistent information, and the information has failed to demonstrate how the jigs are set to a tolerance that will ensure fit-up of segments within the Contract's geometrical tolerance. Furthermore, it appears the jig system is not maintaining the OBG within acceptable tolerances, as evidenced by frequent gaps between the jig template and the bottom skin plates.

The Department has observed, for Segments 4BE and 5AE, the work being performed does not conform with the Contractor's own procedures, which states adjacent OBG segments are to be fabricated 100mm apart. Again, the 100mm spacing was approved as an alternative to the use of a rigid steel template. The Contractor has not submitted a procedure describing how segments, and all of the associated matching plates, will be controlled to match with the adjacent segments if not fabricated 100mm apart as approved.

Special Provision Section 10-1.23, "Construction Surveying," applies to geometry control for the fabrication of steel structures. This section also references Section 10-1.59, "Steel Structures," which requires detailed dimensional verification procedures, submitted and approved by the Engineer. OBG fabrication and assembly is in progress and surveys are being performed with dimensional verification procedures that are not approved; therefore, the work being performed does not conform to the Specifications. ABF is hereby directed to comply with the survey and dimensional verification requirements of the Contract pertaining to fabrication of steel structures.

ABF is reminded that the alignment of discontinuous members must be within 10% of the thickness of the thinner member or less than 3mm, whichever is less. The Dimensional Control Plan did not address a means for controlling the continuity diaphragms for Type 2 closed rib stiffeners. Please provide a written procedure describing how the tolerance will be controlled and verified during fabrication. For panels that have been fabricated with continuity diaphragms, please provide information to verify the tolerance stated above has been achieved.

In order to provide sufficient approval to allow the Contractor to proceed with preliminary stages of fabrication, a partial approval of dimensional control procedures was provided. Please refer to the Department's response to the Contractor's Dimensional Control Plan as contained in State Letter 05.03.01-001955 for deficiencies that remain to be addressed by the Dimensional Control Plan. These items were initially discussed in February 2008, during a Dimensional Control Plan/Dimensional Verification Plan (DCP/DVP) meeting held in ABF's offices and were addressed again in the May 2008 OBG fabrication workshop in Shanghai. During these discussions, the Contractor committed to providing the additional information requested for a complete procedure. At the July 2008 workshop in China, key personnel from ABF and ZPMC were not available despite a planned agenda to continue this discussion. To date, the requested information has not been provided.

To summarize, the Department is requesting ABF respond with the information addressing the following issues by no later than September 5, 2008:

- Survey procedure for OBG segment assembly
- Survey data for steel fabrication, including data to confirm jig placement
- Revised assembly procedures where existing approved procedures (such as assembly of segments 100mm apart) will not be followed
- Control Plan for Type 2 panels with 18mm continuity plates (confirm those fabricated)
- Dimensional Control Plan regarding methods to control closed rib tolerance
- Methods to control tolerances for all other Orthotropic Rib Stiffeners (see State Letter 05.03.01-002090)
- Deck plate diaphragm height control procedure (DCP)
- Alignment of matching plates in corner assembly to OBG interface (DCP)

The Department has made every effort to work with ABF on this matter and has acted in good faith by allowing work to proceed in the segment assembly shop at ZPMC. However, the Contractor's failure to address these issues has reached a point where the progress and acceptability of the OBG segments is at risk and subject to rejection. If you have any questions please contact Rick Morrow, Structure Representative or Doug Coe in Shanghai, China.

Sincerely,



GARY PURSELL
Resident Engineer

cc: Pete Siegenthaler, Rick Morrow, Brian Boal, Doug Coe, Jason Tom
file: 05.03.01